

Application No. 09/847,699
Amdt. dated 6/27/05
Reply to Office action dated 3/25/2005

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A device for aligning a sheet prior to transferring the sheet to a sheet-processing machine, comprising:

at least one sheet-gripping device for displaceably aligning the sheet, said sheet-gripping device having a single displaceable positioning table and an actuating drive for selectively contactlessly displacing said positioning table in a plurality of directions selected from the group consisting of a sheet travel direction, a direction transverse to said sheet travel direction, and a rotation about an axis extending in a direction orthogonal to said sheet travel direction, the sheet to be aligned being fixable on said positioning table.

Claim 2 (original): The sheet-aligning device according to claim 1, wherein said positioning table has at least one contact surface engageable by the sheet, said contact surface being formed with at least one opening connectable to a negative-pressure source.

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Claim 3 (withdrawn): The sheet-aligning device according to claim 1, wherein said positioning table is formed with a plurality of openings, respectively, connected to different negative-pressure chambers, which are separated from and disposed side-by-side one another, as viewed in the sheet travel direction, said negative-pressure chambers being connected to said negative-pressure source independently of one another.

Claim 4 (original): The sheet-aligning device according to claim 1, wherein said positioning table is integrated in a feeding table.

Claim 5 (original): The sheet-aligning device according to claim 1, wherein said positioning table has an underside facing away from said contact surface thereof, and including a plurality of elastic bars engaged by said positioning table at said underside thereof so that the weight of said positioning table is supported thereby.

Claim 6 (withdrawn): The sheet-aligning device according to claim 1, wherein said positioning table is constructed as at least one of a ball table and a compound-table arrangement.

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Claim 7 (original): The sheet-aligning device according to claim 1, wherein said actuating drive has an electromagnetic positioning unit with at least one electromagnet, which is fixed in position relative to said positioning table and is assigned to one of a circumferential region of the positioning table and to a location arranged beneath said positioning table.

Claim 8 (original): The sheet-aligning device according to claim 7, wherein said electromagnet is U-shaped.

Claim 9 (original): The sheet-aligning device according to claim 1, wherein said positioning table is of polygonal construction.

Claim 10 (original): The sheet-aligning device according to claim 9, wherein said positioning table is square.

Claim 11 (withdrawn): The sheet-aligning device according to claim 1, comprising a sheet-detection device for determining the position of at least one of a leading sheet edge and a lateral sheet edge and having at least one position sensor for detecting the sheet edge in the direction of the sheet surface.

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Claim 12 (withdrawn): The sheet-aligning device according to claim 11, wherein said position sensor assigned to said leading sheet edge is disposed on a pregripper cyclically displaceable with the machine.

Claim 13 (withdrawn): The sheet-aligning device according to claim 11, wherein said position sensor is formed by one of a CCD-array camera, a capacitive sensor and an ultrasonic sensor.

Claim 14 (previously presented): The sheet-aligning device according to claim 7, including a control device for activating said at least one electromagnet.

Claim 15 (previously presented): The sheet-aligning device according to claim 2, including a control device for adjusting the negative pressure to which said at least one opening formed in said contact surface of said positioning table is subjected.

Claim 16 (withdrawn): The sheet-aligning device according to claim 11, wherein said sheet-detection device is coupled with a control device to form a regulating circuit.

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Claim 17 (original): The sheet-aligning device according to claim 7, including a measuring device for determining the electric current flowing through said at least one electromagnet.

Claim 18 (original): The sheet-aligning device according to claim 7, including at least one Hall-effect sensor disposed in a bearing gap between said positioning table and at least said one electromagnet.

Claim 19 (previously presented): A method of aligning sheets prior to transferring the sheets to a sheet-processing machine, which comprises:

gripping by at least one sheet retainer a respective sheet to be aligned;

displacing the sheet into a desired position on a single positioning table; and

aligning at least one of a leading sheet edge in a direction transverse to a sheet travel direction and lateral sheet edges in a direction parallel to the sheet travel direction by contactlessly displacing the positioning table in at least one of a sheet travel direction, a direction transverse to the

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sheet travel direction, and a direction pivoting about an axis extending in a direction orthogonal to the sheet travel direction.

Claim 20 (original): The method according to claim 19, which includes, before gripping the sheet by the sheet retainer, stopping the sheet by at least one stop acting in the sheet travel direction.